

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in this application.

1. (Currently Amended) A wireless communication system for performing measurements and positioning of objects in a given structure, the wireless communication area, said system comprising: comprised of:
 - at least one field beacon positioned at at least one target object; point;
 - a central signal collector comprising, comprised of at least three base beacons assembled in a polygon design of known dimensions, wherein each base beacon communicates with each of the at least one field beacon; beacons;
 - an application software arranged to perform, wherein said software performs measurement calculations based on measurements of communication signal characteristics between the at least one field beacons and the base beacons of the central collector; and collector; further arranged to enable the identification of points' exact position within the given structure, wherein at least one field beacon is positioned on every identified point and the at least three base beacons are set at positions within the given structure; and
 - a module that creates a three-dimensional visual model of the given structure based on the identification and calculations of points' exact position within the given structure.
2. (Currently Amended) The wireless communication system of claim 1, wherein, the at least one target point defines a target object and the performed calculations are measurements calculation method is determined according to the geometrical shape of the target object, objects;
3. (Currently Amended) The wireless communication system of claim 2, wherein the geometrical shape is a surface, including at least three beacons; field beacons or touched by one field beacon

in at least three points.

4. (Currently Amended) The wireless communication system of claim 2, wherein the geometrical shape is an opening, including at least three field beacons or touched by one field beacon in at least three points, beacons.
5. (Currently Amended) The wireless communication system of claim 1, wherein the central signal collector's initial position is initialized by a GPS device.
6. (Currently Amended) The wireless communication system of claim 1, wherein the central signal collector's initial position is initialized by at least one field beacon applied to the three reference points with known coordinates.
7. (Currently Amended) The wireless communication system of claim 1, wherein the central signal collector position is initialized in relation to at least three non-coplanar-aligned field beacons.
8. (Currently Amended) A wireless communication system for performing measurements and positioning of objects in a given structure, the wireless communication system comprising:

at least one field beacon positioned at a target object;

a central signal collector, comprising at least three base beacons assembled in a polygon design of known dimensions, claim 1 wherein each base beacon communicates with each of the field beacons; and

an application software arranged to perform calculations based on measurements of communication signal characteristics between the at least one field beacon and the base beacons of the central collector,

wherein the field beacons are positioned at different spaces within the given structure; and

wherein the central signal collector is moved sequentially from one space to another for each measurement session.

9. (Currently Amended) The wireless communication system of claim 1, further comprising including an additional central signal collector for increasing measurement accuracy and for expanding the range of communication reception.

10. (Currently Amended) The wireless communication system of claim 1_a wherein the field beacons communicate with each other, enabling the creation of *ad hoc* signal collectors for improving ~~the measurements calculation~~ accuracy of the performed calculations and for ~~extending~~ expanding the range of communication reception.
11. (Currently Amended) The wireless communication system of claim 10, wherein at least three field beacons function as a relay station enabling communication between distanced beacons which are not in the communication range of the central collector.
12. (Currently Amended) The wireless communication system of claim 1_a wherein the at least one field beacons and the base beacons communicate through RF signals, wherein the distance measurements are based on RF signal properties.
13. (Currently Amended) The wireless communication system of claim 1_a wherein the at least one field beacons and the base beacons communicate through ultrasonic signals, wherein the distance measurements are based on the signals' time properties.
14. (Currently Amended) The wireless communication system of claim 1_a wherein the at least one field beacons and the base beacons communicate through laser signals, wherein the at least one field beacons are bar-coded and the central signal device is a laser scanner.
15. (Cancelled)
16. (Cancelled)
17. (Currently Amended) The wireless communication system of claim 1, wherein the performed calculations are used for surveying surroundings before construction, wherein the field beacons are positioned at strategic locations, enabling the determination of the topographic relations between the beacons.
18. (Currently Amended) The wireless communication system of claim 1_a wherein the measurement calculations are used for surveying surroundings under construction, wherein the at least one field beacons are positioned at strategic locations, enabling the comparison between on-location positioning and construction designs.
19. (Currently Amended) The wireless communication system of claim 1, wherein the given

structure is a building and wherein at least one of the field beacons is embedded into the building for future maintenance or monitoring use.

20. (Currently Amended) The wireless communication system of claim 1, wherein the central collector's base beacons are set at permanent positions within the given structure, a building, enabling the identification of objects' exact position and objects' movement within the building, wherein at least one field beacon is positioned on every identified object.
21. (Currently Amended) The wireless communication system of claim 1, 20 wherein the ~~exact position or~~ movement of the identified objects is incorporated within the a three-dimensional visual model of the building.
22. (Currently Amended) The wireless communication system of claim 20, wherein the central collector's base beacons are set at permanent positions within the given structure, and wherein the target objects are inventory items and the performed calculations~~measurements calculation~~ supports warehouse inventory management.
23. (Currently Amended) A wireless communication~~The~~ system for performing measurements and positioning of objects in a given structure, the wireless communication system comprising:
at least one field beacon positioned at a target object;
claim 1 further including three field beacon triangle structure which is connected to a pointing telescopic rod of a known length;
a central signal collector, comprising at least three base beacons assembled in a polygon design of known dimensions, wherein each base beacon communicates with each of the field beacons; and
an application software arranged to perform calculations based on measurements of communication signal characteristics between the at least one field beacon and the base beacons of the central collector,
wherein three field beacon triangle structure enables~~enabling~~ to measure any target point.
24. (Currently Amended) The wireless communication system of claim 1, further comprising a

including three field beacon triangle structure which is connected to a laser-based distance measuring device to measure any target point.

25. (Currently Amended) A wireless method ~~offer~~ performing measurements and positioning of ~~objects~~ target points in a given ~~structure~~ area using at least one field beacon positioned at at least one target ~~object~~ point and a central signal collector ~~comprising~~ comprised of at least three base beacons assembled in a polygon design of known dimensions, the wireless ~~said~~ method ~~comprising the steps of:~~

establishing communication between each of the at least three base beacons and each of the at least one field ~~beacon~~ beacons;

performing ~~measurement~~ calculations based on measurements of communication signal characteristics between the at least one field beacons and the base beacons of the central ~~collector~~ and collector.

generating computerized drawings of the given structure based on the performed calculations.

26. (Currently Amended) The wireless method of claim 25, further comprising ~~the step of~~ initializing the central signal collector by at least one field beacon which is applied to three reference points with known coordinates.
27. (Currently Amended) The wireless method of claim 25, further comprising ~~the step of~~ initializing the central signal collector in relation to at least three non-~~coplanar~~ aligned field beacons.
28. (Currently Amended) The wireless method of claim 25, further comprising ~~the step of~~ initializing the central signal collector using a GPS device.
29. (Currently Amended) The wireless method of claim 25, further comprising ~~the step of~~ communication between the field beacons themselves, enabling the creation of *ad hoc* signal collectors for improving measurements calculation accuracy and for expanding the range of communication reception.
30. (Currently Amended) The wireless method of claim 25, further comprising ~~the step of~~

relaying communication by the at least one field beacons enabling communication between distanced beacons which are not in the communication range of the central collector.

31. (Cancelled)

32. (Cancelled)

33. (Currently Amended) The wireless method of claim 25, further comprising surveying surroundings before construction based on the measurement calculations, wherein the at least one field beacons are positioned at strategic locations, enabling the determination of the topographic relations between the beacons.

34. (Currently Amended) The wireless method of claim 25, further comprising ~~the step of~~ surveying surroundings under construction based on the measurement calculations, wherein the at least one field beacons are positioned at strategic locations, enabling the comparison between on-location positioning and construction designs.